

WHAT IS CLAIMED:

1. An automatic analyzer comprising;

a reaction vessel where solution specimen is mixed with reagent to react with it,

5 a light source to apply light to said reaction solution and

an analysis unit to analyze light passing through said reaction solution;

10 wherein said automatic analyzer further comprises an agitator to apply ultrasonic wave to said reaction solution and to agitate said reaction solution, and

15 the direction of the ultrasonic wave emitted from said agitator and the direction of the light applied to said reaction solution are deviated from each other to the extent to which the surface exposed to ultrasonic wave on said reaction vessel does not overlap the surface exposed to light.

2. An automatic analyzer according to Claim 1 wherein the surface exposed to ultrasonic wave on said reaction vessel has the size formed by projecting the size of the electrode surface of the ultrasonic wave transmitter of said agitator into the surface of said reaction vessel, while the surface exposed to light has the size formed by projecting on the surface of said reaction vessel the size of the lens which the light emitted from the light source last passes through.

25 3. An automatic analyzer comprising;

a reaction vessel where solution specimen is mixed with reagent to react with it,

a light source to apply light to said reaction solution

and

an analysis unit to analyze light passing through said reaction solution;

wherein said automatic analyzer further comprises an
5 agitator to apply ultrasonic wave to said reaction solution and to agitate said reaction solution, and

said reaction vessel and the element emitting ultrasonic wave are arranged at the angle where ultrasonic wave reflected by the surface exposed to the ultrasonic wave of said reaction
10 vessel does not come back to the surface of the ultrasonic wave generating element.

4. An automatic analyzer according to Claim 3 characterized in that said reaction vessel is shaped in a polygonal column, and the vertical projection plane of the surface of said reaction
15 vessel exposed to ultrasonic wave coming from said agitator does not overlap the element emitting ultrasonic wave of said agitator.

5. An automatic analyzer comprising;
a reaction vessel where solution specimen is mixed with
20 reagent to react with it,

a light source to apply light to said reaction solution and

an analysis unit to analyze light passing through said reaction solution;

25 wherein said automatic analyzer further comprises an agitator to apply ultrasonic wave to said reaction solution and to agitate said reaction solution, and

ultrasonic wave coming from said agitator and light applied

to said reaction solution can be emitted simultaneously.

6. An automatic analyzer according to Claim 1 further characterized in that said reaction vessel has a form of prism and the surface exposed to ultrasonic wave emitted from said agitator is different from the surface exposed to light applied to said reaction solution.

7. An automatic analyzer according to Claim 5 further characterized in that irradiation conditions of ultrasonic wave coming from said agitator are controlled, based on the result of analyzing the light passing through said reaction solution.

8. An automatic analyzer according to Claim 5 further characterized in that the reagent for agitation and regulation can be used to analyze the light passing through reaction solution and to determine the optimum irradiation conditions of ultrasonic wave.

9. An automatic analyzer according to Claim 8 further characterized in that said optimum irradiation conditions of ultrasonic wave are stored in memory and ultrasonic wave irradiation conditions are determined in the analysis using the reagent other than that for agitation and regulation, based on said irradiation conditions.

10. A solution specimen analysis method comprising;
(1) a step of pouring a solution specimen into the reactor vessel,
(2) a step of pouring a reagent into said reaction vessel,
(3) a step of applying ultrasonic wave to the mixture between solution specimen and sample and agitating it,
(4) a step of applying light to said mixture from the

